COMPLETE LISTING OF ALL OF THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

Claims 1-7 (previously canceled)

Claim 8 (previously withdrawn): A method to fabricate a uniform force hydrostatic bolster plate, comprising:

selecting a set of physical dimensions for a bladder and a hollow plate incorporated in said uniform force hydrostatic bolster plate;

modeling said uniform force hydrostatic bolster plate after assembly on a substrate;

estimating an improved set of physical dimensions for said bladder and said hollow plate after modeling said uniform force hydrostatic bolster plate after assembly of said uniform force bolster plate and a component on said substrate;

fabricating a bladder prototype and a hollow plate prototype according to said improved set of physical dimensions; and

putting said bladder prototype filled with a substantially non-compressible material into said hollow plate prototype, such that said bladder prototype extends in height above said hollow plate prototype.

Claim 9 (previously withdrawn): The method of claim 8, wherein said uniform force hydrostatic bolster plate includes a material selected from a group of materials consisting of: a stainless steel alloy, a powder-coated spring steel alloy, a plated spring steel alloy, a painted spring steel alloy, a titanium steel

alloy, a magnesium alloy, an aluminum alloy, a composite, or a plastic.

Claim 10 (previously withdrawn): The method of claim 8, wherein said component is a land grid array (LGA) component.

Claim 11 (previously withdrawn): The method of claim 8, wherein said bladder incorporates a substantially non-compressible liquid.

Claim 12 (previously withdrawn): The method of claim 8, wherein said bladder is made from an impermeable elastomeric material chosen from the group of impermeable elastomeric materials consisting of: a plastic, rubber, or a fabric.

Claim 13 (previously withdrawn): The method of claim 8, wherein said material inside said bladder is selected from a group of materials consisting of: water, a glycol solution, an oil mixture, a water-based gel, or an oil-based gel.

Claim 14 (currently amended): An assembled substrate, comprising:

a substrate having a first side and a second side, and an electrical contact area comprising conductive pads on said first side;

an electrical component having a plurality of leads comprising component pins attached to said conductive pads of said substrate;

a socket disposed on the substrate, wherein the electrical component is disposed on the socket; and

a uniform force hydrostatic bolster plate attached to said second side of said substrate opposite said electrical contact

area of said substrate, wherein said uniform force hydrostatic bolster plate includes:

a bladder,

a material inside said bladder, and

a hollow plate to enclose said bladder, wherein said hollow plate is open on one side and wherein the bladder conforms to a surface of the substrate.

Claim 15 (original): The assembled substrate of claim 14, wherein said substrate is chosen from a group of substrates consisting of: a printed circuit board (PCB), a multi-chip module (MCM), and a flexible substrate.

Claim 16 (original): The assembled substrate of claim 14, wherein said component is a land grid array (LGA) component.

Claim 17 (original): The assembled substrate of claim 14, wherein said uniform force hydrostatic bolster plate includes a hollow plate fabricated from a material selected from a group of materials consisting of: a stainless steel alloy, a powder-coated spring steel alloy, a plated spring steel alloy, a painted spring steel alloy, a titanium steel alloy, a magnesium alloy, an aluminum alloy, or a plastic.

Claim 18 (original): The assembled substrate of claim 14, wherein said material of said bladder incorporates a substantially non-compressible liquid.

Claim 19 (original): The assembled substrate of claim 14, wherein said bladder is made from an impermeable elastomeric material chosen from a group of impermeable elastomeric materials consisting of: a plastic, a rubber, or a fabric.

Claim 20 (original): The assembled substrate of claim 14, wherein said material inside said bladder is selected from a group of materials consisting of: water, a glycol solution, an oil mixture, a water-based gel, or an oil- based gel.

Claim 21 (previously canceled)

Claim 22 (previously withdrawn): A method to assemble a uniform force hydrostatic bolster plate to one side of a substrate having a first side and a second, comprising:

attaching a component to an electrical contact area on the second side of the substrate;

filling a bladder with a material;

inserting the bladder into a hollow plate; and

attaching the bladder and the hollow plate to the first side of the substrate, wherein the bladder and the hollow plate are attached to the first side which is opposite the electrical contact area on the second side of the substrate; and

clamping the component and the hollow plate to the substrate.

Claim 23 (previously withdrawn): The method of claim 22, wherein the component is a land grid array (LGA) component.

Claim 24 (previously withdrawn): The method of claim 22, wherein the substrate comprises one of the following substrates: a printed circuit board (PCB), a multi-chip module (MCM), and a flexible substrate.

Claim 25 (previously withdrawn): The method of claim 22, wherein the hollow plate comprises one of the following

materials: a stainless steel alloy, a spring steel alloy, a titanium steel alloy, a magnesium alloy, a composite, or a plastic.

Claim 26 (previously withdrawn): The method of claim 22, wherein the bladder incorporates a substantially non-compressible liquid.

Claim 27 (previously withdrawn): The method of claim 22, wherein the bladder comprises an impermeable elastomeric material selected from a group of materials consisting of: a plastic, a rubber, or a fabric.

Claim 28 (previously withdrawn): The method of claim 22, wherein the material inside the bladder is selected from a group of materials consisting of: water, a glycol solution, an oil mixture, a water-based gel, or an oil-based gel.

Claim 29 (previously withdrawn): The method of claim 22, wherein the component is clamped to the substrate by use of a clamp.

Claim 30 (previously withdrawn): The method of claim 22, wherein the component and the hollow plate are clamped to the substrate by use of bolts.

Claim 31 (previously withdrawn): The method of claim 22, wherein the bladder has a height that extends above a height of the hollow plate before the hollow plate is clamped to the substrate.

Claim 32 (previously withdrawn): The method of claim 22, wherein the bladder conforms to a surface of the substrate after the hollow plate is clamped to the substrate.

Claim 33 (previously withdrawn): The method of claim 22, wherein the cavity of the hollow plate is filled by the bladder after the hollow plate is clamped to the substrate.

Claim 34 (previously withdrawn): The method of claim 22, wherein the hollow plate is designed by a method comprising:

selecting a first set of physical dimensions for the bladder and a second set of physical dimensions the hollow plate based upon a predicted uniform load from a clamping force that will be applied to a component and a substrate that will be coupled to the component and the hollow plate;

modeling the hollow plate by use of a three-dimensional computer aided design software and a finite element analysis software, where the modeling involves a model of the hollow plate as assembled on the substrate with stresses; and

if the modeling of the hollow plate predicts that the hollow plate will not provide a uniform force after assembly to the substrate, then estimating an improved first set of physical dimensions for the bladder and an improved second set of physical dimension for the hollow plate after modeling the hollow plate so that the hollow plate will maintain a uniform force after assembly of the component and hollow plate on the substrate.

Claim 35 (previously withdrawn): A uniform force hydrostatic bolster plate produced in accordance with the method of claim 22.

Claim 36 (previously presented): The assembled substrate of claim 14, wherein the bladder has a height that extends above a height of the hollow plate before the hollow plate is attached to the substrate.

Claim 37 (previously presented): The assembled substrate of claim 14, wherein the bladder conforms to the surface of the substrate after the hollow plate is attached to the substrate.

Claim 38 (cancelled)

Claim 39 (previously presented): The assembled substrate of claim 14, wherein bladder physical dimensions for the bladder are estimated and plate physical dimensions for the hollow plate are estimated, based upon a predicted uniform load from a clamping force that is applied to the component and the substrate that is coupled to the component and the hollow plate.

Claim 40 (previously presented): The assembled substrate of claim 39, wherein the hollow plate is modeled in a three-dimensional computer aided design software, based on the bladder physical dimensions and plate physical dimensions.

Claim 41 (previously presented): The assembled substrate of claim 40, wherein a finite element analysis software package models stresses on the hollow plate and determines a shape of the hollow plate, after the hollow plate is assembled on the substrate.

Claim 42 (previously presented): The assembled substrate of claim 41, wherein new bladder physical dimensions and new plate physical dimensions are selected if the finite element analysis

software package does not predict the hollow plate as maintaining a uniform force after the hollow plate is assembled on the substrate.